Rinnai
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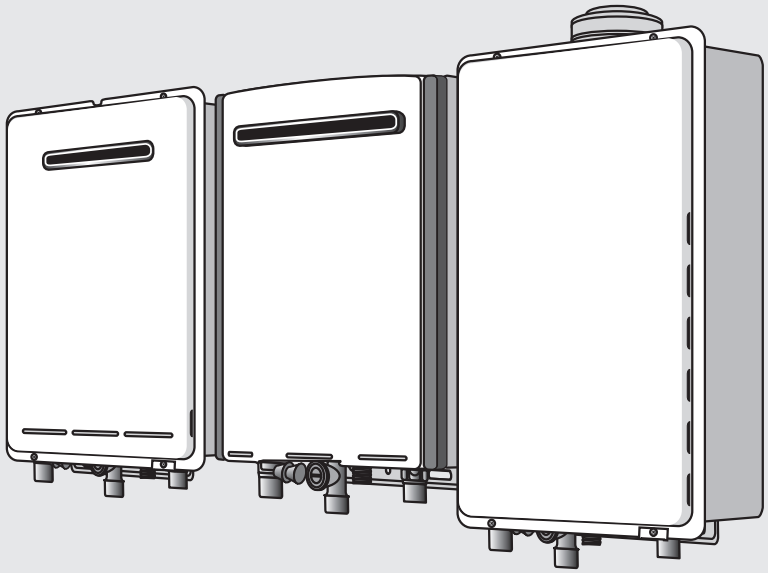
Continuous Flow Water Heaters

Installation Manual



To suit models:

Rinnai Infinity VT16	REU-VR1620WG	Rinnai Infinity HD200	REU-VRM2632WC
Rinnai Infinity VT20	REU-VR2024WG	Rinnai Infinity HDi200	REU-VR2632FFUG
Rinnai Infinity VT24	REU-VR2426WG	Rinnai Infinity HD250	REU-VR3237WG
Rinnai Infinity VT26	REU-VR2626WG	Rinnai Infinity EF24	REU-K2430WG
Rinnai Infinity VTa26	REU-VR2626WGT	Rinnai Infinity EF250	REU-KM3237WD
		Rinnai Infinity EFi250	REU-KM3237FFUD

i = internal
a = aggressive water

Models are not suitable as a spa or swimming pool heater.

Internal Rinnai continuous flow internal water heaters ('i' models) must be installed with an approved Rinnai flue system.

Appliance must be installed, commissioned and serviced by a licensed tradesperson in accordance with these instructions and all applicable local rules and regulations.

Your Rinnai continuous flow water heater complies with NZS 5262. A declaration to this effect can be found on the Energy Safety web site; www.energysafety.govt.nz.

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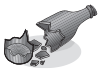
WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life.

For assistance or additional information contact Rinnai on 0800 TO RINNAI (0800 86 746 624).

Before installation



Unpack appliance and flue components (if applicable) and check for damage. DO NOT install any damaged items.

Check all components have been supplied and that you have the correct gas type.

Read these instructions to get an overview of the steps required before starting the installation. Failure to follow these instructions could cause a malfunction of the appliance. This could result in serious injury and property damage.

For Rinnai continuous flow water heaters used in solar installations, refer 'Recommended Solar System Layout'.

The Rinnai Infinity EF models are 32 kg. Please use care when lifting and seek assistance if required.

This appliance must be installed in accordance with:

- Current AS/NZS3000, AS/NZS3500, NZS 5261 and G12/AS1
- Rinnai installation instructions
- Local regulations and municipal building codes

Installation, service and removal must be by an authorised person only.

Applicable models

These installation instructions apply to the following Rinnai continuous flow water heaters.

Rinnai Infinity VT16	External	REU-VR1620WG
Rinnai Infinity VT20	External	REU-VR2024WG
Rinnai Infinity VT24	External	REU-VR2426WG
Rinnai Infinity VT26	External	REU-VR2626WG
Rinnai Infinity VTa26	External	REU-VR2626WGT
Rinnai Infinity HD200	External	REU-VRM2632WC
Rinnai Infinity HDi200	Internal	REU-VR2632FFUG
Rinnai Infinity HD250	External	REU-VR3237WG
Rinnai Infinity EF24	External	REU-K2430WG
Rinnai Infinity EF250	External	REU-KM3237WD
Rinnai Infinity EFi250	Internal	REU-KM3237FFUD

i = internal
a = aggressive water unit

Appliance location

Installation in environments free from corrosive compounds

Air surrounding the water heater, venting and vent termination(s) is used for combustion and must be free from compounds that cause corrosion of internal components. These include corrosive compounds that are found in aerosol sprays, detergents, bleaches, cleaning solvents, oil based paints/varnishes, and refrigerants. Therefore Rinnai recommends outdoor models be used for these locations where possible. The water heater, venting and vent termination(s) should not be installed in any areas where the air may contain these corrosive compounds.

If it is necessary for a water heater to be located in areas which may contain corrosive compounds, Rinnai strongly recommends the following:

Indoor/internal water heaters:

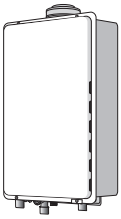
- DO NOT install in areas where contaminated air is present
- Consider before installation where air has the ability to travel within the building
- Chemicals that are corrosive in nature should not be stored or used near the water heater
- Where possible, install the water heater in a sealed closet so that it is free of contaminated indoor air

Outdoor/external water heaters and vent terminations of indoor/internal water heaters:

- Install as far away as possible from exhaust vent hoods
- Install as far away as possible from air inlet vents—corrosive fumes may be released through these vents when air is not being brought in through them
- Chemicals that are corrosive in nature should not be stored or used near the water heater or vent termination

Damage and repair due to corrosive compounds in the air is not covered by warranty.

Internal models



Internal models are designed for indoor installations only. They may be installed in an enclosure if the requirements of NZS 5261 are satisfied. An enclosure is defined as a compartment, enclosed area or partitioned off space primarily used for the installation of the appliance. If installed in an enclosure either internally or externally, the location should be ventilated to allow gas to dissipate.

They must be mounted on a vertical structure with the water and gas connections on the underside pointing downwards. For appliances installed in roof spaces or elevated structures, specific requirements apply. Refer to NZS 5261 section 1.6 for details.

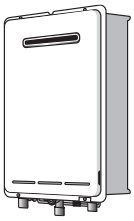
This appliance MUST be used with an approved Rinnai flueing system. The use of a non-Rinnai flueing system may result in a dangerous situation and violates regulations.

This appliance must be located so that the flue terminal exits the building at a suitable point, refer 'Minimum Clearances Required for Flue Terminals', NZS 5261:2003.

Manufacturer's instructions for model REU-KM3237FFUD (EFi250); for reference j, gas appliances over 200 MJ/h input, use ≥ 300 mm.

Appliance location

External models



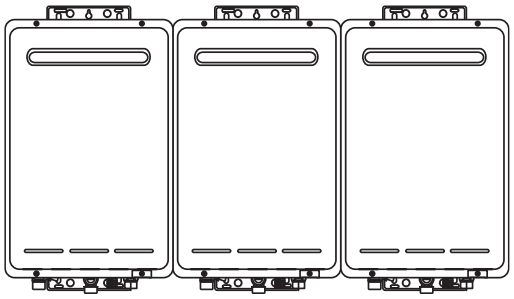
External models are designed for outdoor installations only. They must be located in an above ground open-air situation with natural ventilation, without stagnant areas, and where gas leakage and products of combustion are rapidly dispersed by wind and natural convection.

They must be mounted on a vertical structure with the water and gas connections on the underside pointing downwards. For appliances installed on elevated structures or under floors specific requirements apply. Refer to NZS 5261 for details.

This appliance must be located so that the flue terminal exits the building at a suitable point, refer 'Minimum Clearances Required for Flue Terminals', NZS 5261:2003.

Manufacturer's instructions for model REU-KM3237WD (EF250); for reference j, gas appliances over 200 MJ/h input, use ≥ 300 mm.

When multiple units of the same model are installed on the same vertical face, with the flue terminals at the same height, they can be installed next to each other (as shown).



All models

This appliance must be placed as close as possible to the most frequently used hot water outlet or outlets to minimise the delay for hot water delivery.

For installations where the distance between the water heater and the outlets is considerable, a flow and return system can be used to minimise the waiting time for hot water delivery. Alternatively, multiple appliances can be strategically placed to serve different outlets. Contact Rinnai for further information.

An AC 230 V, 10 Amp, earthed power point must be provided adjacent to the appliance. For outdoor installations, this power point must be weatherproof. It must be clear of the gas and water connections to the appliance and also the flue exhaust and water pressure relief valve. The power cord of the appliance is 1.5 m long.

All appliances must be installed to ensure access can be gained without hazard or undue difficulty for inspection, repair, renewal or operational purposes. Sufficient clearances shall allow access to and removal of all serviceable components.

Appliances should not be mounted higher than 3.5 m above the ground or floor level unless the customer can arrange permanent and safe access or can provide another means of access such as scissor or boom lifts.

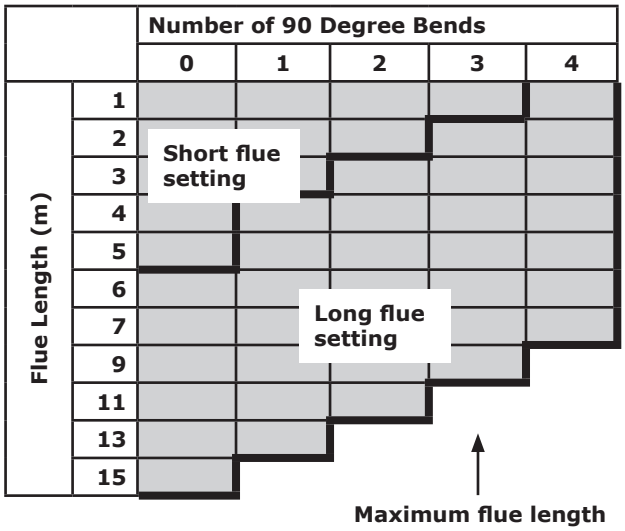
General installation information

Catch pan

It is important a suitably drained catch pan is fitted (especially for internal units) where damage could be caused by discharge from the water heater. Provision must be made for safe disposal of any leaking water to an external location.

Flued water heaters (internal units)

The chart below highlights the maximum flue length and number of bends. It also shows the difference between a short and long flue—this is important if changing settings (dip switches).

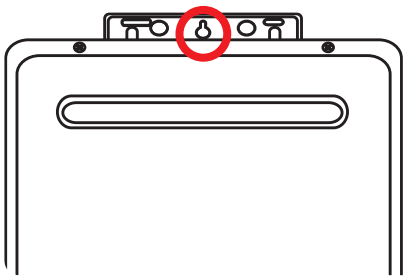


Mounting the appliance

Refer 'Connections and Fittings' for individual appliance weights. The wall or structure on which these units are to be mounted must be capable of supporting these weights and the associated pipe work.

Ensure suitable fixing screws or bolts are used to secure the units to the walls, in accordance with NZS 5261 (section 5.0). Wooden plugs shall not be used.

The top bracket has a keyhole slot (circled below) so the appliance can be positioned by hanging it on one screw while the other screws are secured.



General installation information

Pipe sizing

Refer 'Connections and Fittings' for appliance gas consumption. If the gas pipe sizing is insufficient the customer will not get the full performance benefit. Gas pipe sizing must consider the gas input to this appliance as well as all the other gas appliances in the premises. The gas meter and regulator must be specified for this gas rate. An approved sizing chart such as the one in NZS 5261 should be used.

Water pipe sizing and layout should be performed in accordance with AS/NZS3500. All hot water pipe work should be insulated to optimise performance and energy efficiency.

Water delivery temperature

Local regulations and/or requirements of AS/NZS3500.4 must be considered regarding the temperature limitations of hot water supplied to areas used primarily for personal hygiene. The temperature of these areas may be limited to 55 °C or less.

If the appliance is to deliver water primarily for the purposes of personal hygiene in an early childhood centre, school, nursing home or similar facility as defined in AS/NZ3500.4 a Temperature Limiting Device (TLD), such as a Tempering Valve may be required (even if the appliance is set to 55 °C or less). For these types of applications contact Rinnai.

Requirements for Rinnai Continuous Flow Units Installed Without Controllers

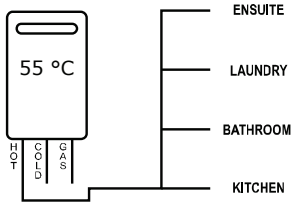


Diagram 1 - 55 °C Appliance

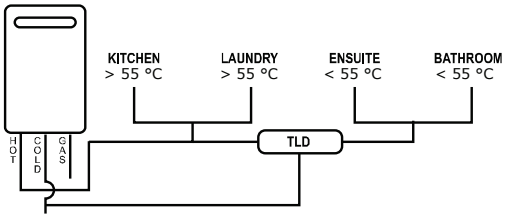


Diagram 2 - Not a 55 °C Appliance
(TLD = Temperature Limiting Device)

When the continuous flow unit is set to deliver water at a temperature higher than 55 °C, it will be necessary to fit a Temperature Limiting Device for delivery to areas used for the purposes of personal hygiene. Refer Department of Building and Housing G12.

Water supply

Refer 'Connections and Fittings' for applicable water pressures. Approved pressure limiting valves may be required if the stated maximum rated water supply pressures are exceeded. To achieve the rated flow, the stated minimum water supply pressures must be supplied. The water heaters will operate at lower pressures but will not achieve the rated flow.

Water chemistry and impurity limits are stated in our detailed warranty statement. Most metropolitan water supplies fall within these requirements. If you are unsure about the quality of the water, please contact Rinnai and we will provide you with the details of an authorised agency who are able to test your water for compliance to Rinnai standards. If sludge or foreign matter is present in the water supply, a suitable filter or strainer should be incorporated in the water supply to the water heater.

Connections and fittings

Models	Gas Consumption MJ/h	Water Supply kPa		Weight kg	Fittings			Condensate
		Min.	Max.		Hot	Cold	Gas	
VT16 Ext REU-VR1620WG	125	120	1000	15	R½ (15 mm)	R½ (15 mm)	R¾ (20 mm)	
VT20 Ext REU-VR2024WG	160	160	1000	16	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	
VT24 Ext REU-VR2426WG	188	180	1000	17	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	
VT26 Ext REU-VR2626WG	199	180	1000	17	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	
VTa26 REU-VR2626WGT	199	180	1000	17	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	
HD200 Ext REU-VRM2632WC	199	140	1000	21	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	
HDi200 Int REU-VR2632FFUG	195	140	1000	21	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	
HD250 Ext REU-VR3237WG	250	200	1000	29	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	
EF24 Ext REU-K2430WG	162	240	1000	27	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	R½ (15 mm)
EF250 Ext REU-KM3237WD	211	240	1000	32	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	R½ (15 mm)
EFi250 Int REU-KM3237FFUD	211	240	1000	32	R¾ (20 mm)	R¾ (20 mm)	R¾ (20 mm)	R½ (15 mm)

Service connection points

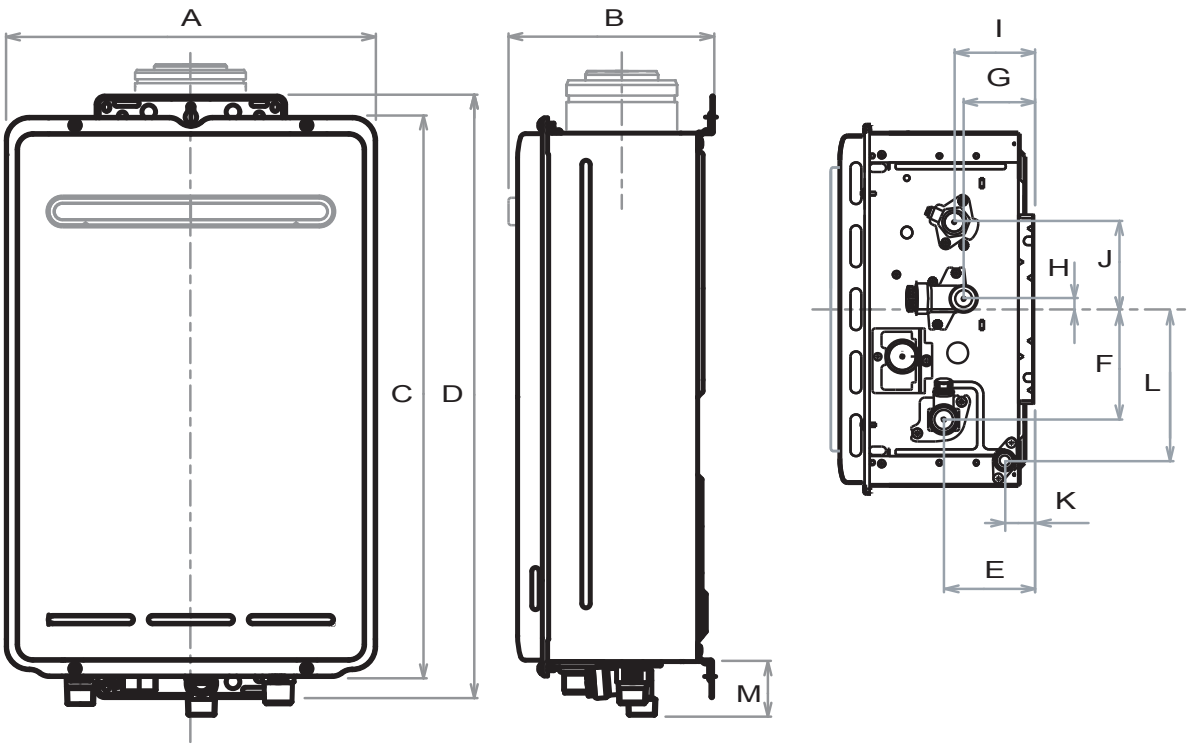
These dimensions are NOT an indication of the pipe sizes required.

An approved full flow isolation valve and disconnection union MUST be fitted to the cold water inlet. A non-return valve is not required unless required by local regulations.

Isolation valves must be fitted so the appliance can be removed.

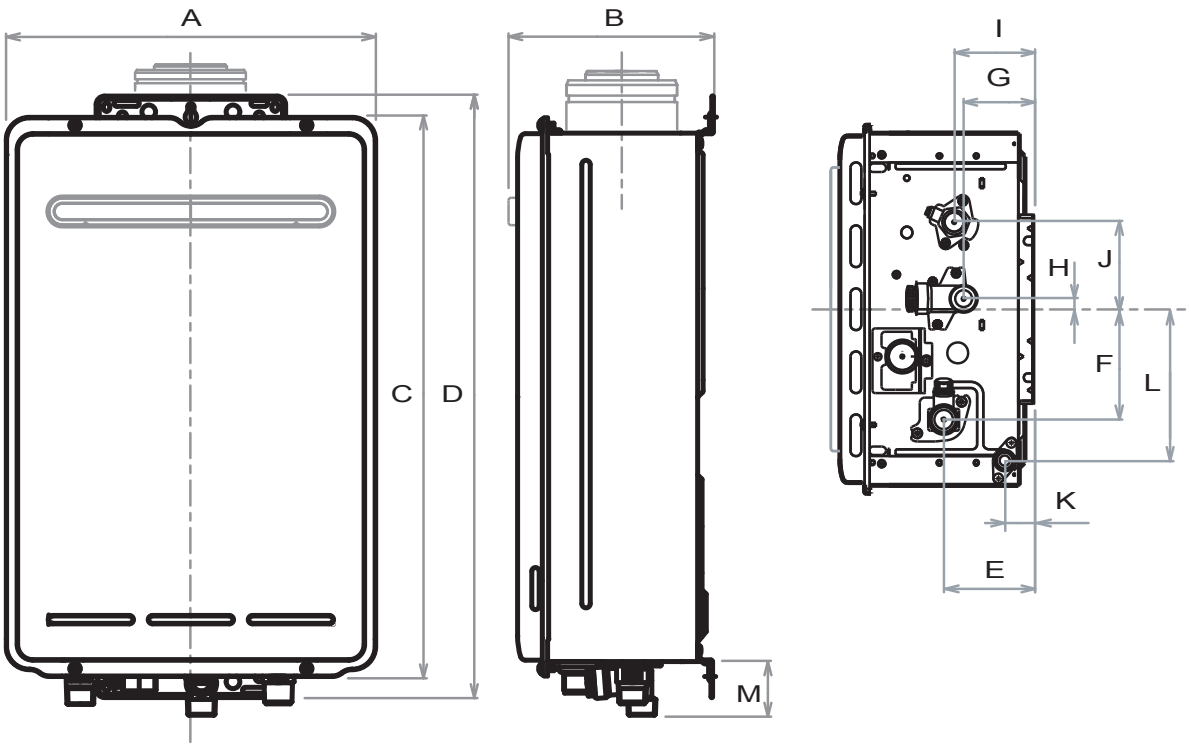
Purge gas and cold water supply lines to remove air and swarf before final connection of the appliance. Swarf in the gas or water supplies may cause damage.

Dimensions - VT and HD range



Dimension (mm)		VT16 Ext (REU-VR1620WG)	VT20 Ext (REU-VR2020WG)	VT24 Ext (REU-VR2426WG)	VT26 Ext (REU-VR2626WG)	VTa26 Ext (REU-VR2626WGT)	HD200 Ext (REU-VRM2632WC)	HDi200 Int (REU-VR2632FFUG)	HD250 Ext (REU-VR3237WG)
A	Width	350	350	350	350	350	350	350	470
B	Depth	194	194	194	194	194	250	235~275	244
C	Height - Unit	530	530	530	530	530	600	600	600
D	Height - Including Brackets	571	571	571	571	571	636	641	644
E	Hot Water Outlet (from wall)	87	87	87	87	87	95	91~131	115
F	Hot Water Outlet (from centre)	105	105	105	105	105	110	110	61
G	Cold Water Inlet (from wall)	68	68	68	68	68	74	70~110	99
H	Cold Water Inlet (from centre)	10	10	10	10	10	27*	27*	52
I	Gas Connection (from wall)	77	77	77	77	77	103	99~139	61
J	Gas Connection (from centre)	83	83	83	83	83	89	89	110
K	Condensate Outlet (from wall)	•	•	•	•	•	•	•	•
L	Condensate Outlet (from centre)	•	•	•	•	•	•	•	•
M	Gas: Length Gas Connection (from base)	40	40	40	40	40	41	41	41
	Cold: Length of Cold Water Inlet (from base)	50	50	50	50	50	51	51	51
	Hot: Length of Hot Water Outlet (from base)	39	39	39	39	39	42	42	42
* this measurement is to the left of the centre line									
HDi200, height of flue spigot from base of unit ≈ 85 mm									

Dimensions - EF range



Dimension (mm)		EF24 Ext (REU-K2430WG)	EF250 Ext (REU-KM3237WD	EFi250 Int (REU-KM3237FFUD)
A	Width	350	470	470
B	Depth	277	283.1	257~307
C	Height - Unit	600	654	654
D	Height - Including Brackets	644	721.6	721.6
E	Hot Water Outlet (from wall)	164.5	100	100~150
F	Hot Water Outlet (from centre)	100	100	100
G	Cold Water Inlet (from wall)	83	64.6	64.6~114.6
H	Cold Water Inlet (from centre)	53*	27.2	27.7
I	Gas Connection (from wall)	70.5	89	89~139
J	Gas Connection (from centre)	25	103.2	103.2
K	Condensate Outlet (from wall)	33	122.6	122.6
L	Condensate Outlet (from centre)	132	195	195
M	Gas: Length Gas Connection (from base)	51	40.2	40.2
	Cold: Length of Cold Water Inlet (from base)	62	50.2	50.2
	Hot: Length of Hot Water Outlet (from base)	41	41.2	41.2
	Condensate Connection Length (from base)	24	22.4	22.4

* this measurement is to the left of the centre line

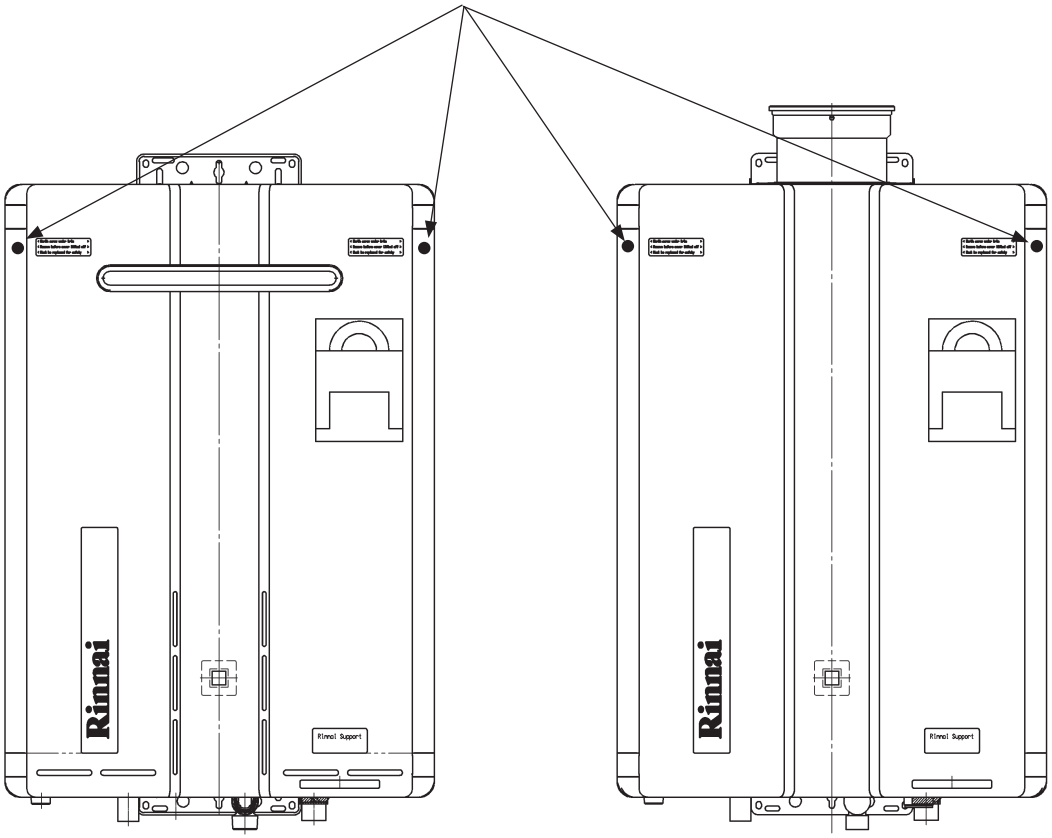
EF250 models: Earthing the unit

Removing the cover and earthing the unit

For the Rinnai condensing continuous flow water heaters (EF250 & EFi250), the earthing screws are located under the side trim, refer image below. First remove the trim and then the earthing screws before lifting off the cover.

WARNING For safe operation of the appliance the earthing screws MUST be replaced.

Earthing screws located under side trim



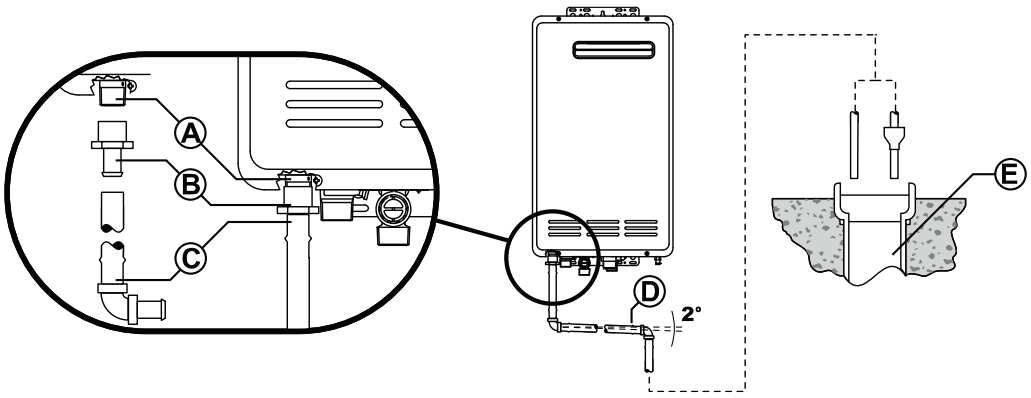
Condensate drain - EF models only

The Rinnai Infinity EF water heaters generate condensate continuously at a rate of up to five litres per hour as a by-product of a highly efficient gas burner. Condensate must be drained via a pipe to a suitable discharge point.

As condensate is a by-product of gas combustion it is mildly acidic. For this reason copper tube and fittings MUST NOT be used as it will corrode. Instead Rinnai recommend plastic pipes and fittings.

Important considerations for condensate drain pipe

Content of AS3500.4.2003 section 5.12 'Temperature/Pressure Relief and Expansion Control Valve Drain Lines' has been used as a guide in preparing these considerations.



A) Water heater drain outlet connection, ½ ″ (15 mm) BSP male.

B) PE ½ ″ BSP (15 mm) female to barbed ignition system connector (13-19 mm) or equivalent plastic fitting.

C) Drain pipe and fittings to match (B).

D) Continuous fall of at least 2° from water heater to discharge point, length and bends in accordance with those stated below.

E) Suitable points of discharge are deemed to be sewers or pits. DO NOT discharge onto electrical connections, earth stakes, copper pipes, concrete paths or into a pond.

Maximum length and changes of direction greater than 45°

Length and Changes of Direction				
Maximum length (m)	9	8	7	6
Maximum changes of direction (> 45°)	3	4	5	6

Condensate drain - EF models only

Installation of a condensate drain

Point of discharge from each drain line shall be located so the release of condensate does not cause a nuisance, is readily discernible and incurs no risk of building damage. There shall be no tap, valve or other restrictions in any line. Each line shall fall continuously from the valve to the approved point of discharge.

Drain lines shall not discharge into a storage water heater safe tray. The end of the condensate drain line shall be:

- Not lower than 200 mm or higher than 300 mm above an unpaved surface; or
- Not lower than 75 mm or higher than 300 mm above a gravel pit and not less than 100 mm in diameter in a paved surface.

Where discharging over a tundish or gully trap, drain lines shall have an air gap of a size at least twice the diameter of a drain line.

Joining of condensate drain lines

Condensate drain lines from multiple water heaters may be joined together provided they conform with the installation requirements above.

Common stack discharge

Where individual heaters are installed in a multistorey building, the condensate drain lines may discharge into a common stack subject to the following:

- Drained to a tundish having a discharge line that is not less than the common stack, directly connected to a fixture trap, and installed in a connection with any adjacent soil or waste stack
- Discharge point of the common stack is readily visible and does not cause any nuisance
- Common stack is vented by extending the pipe upwards, above the roof level

Tundish drain lines

The drain line from any tundish shall be not less than DN 20 or less than one size larger than that of the largest drain line discharging into the tundish. Tundish drain lines shall comply with the installation requirements above.

Areas subject to freezing

In areas where water pipes are prone to freezing, the drain pipe from any valve shall be insulated and not exceed 300 mm in length. It shall discharge into a tundish through an air gap of not less than 75 mm and not exceed more than 150 mm measured from the outlet of the drain pipe to the rim of the tundish.

Controllers - general

Water controllers are available as an optional extra. Universal (Compact), Deluxe and Wireless Controllers can be used together. A maximum of four water controllers can be fitted with the following limitations:

- Maximum of one Kitchen Deluxe Controller (MC-100V)
- Maximum of two Bathroom Deluxe Controllers (BC-100V)
- Only one controller can be set to deliver 55 °C, this cannot be a Bathroom Deluxe Controller

This section refers to wired controllers. For details on Wireless Controllers, refer to separate instructions.

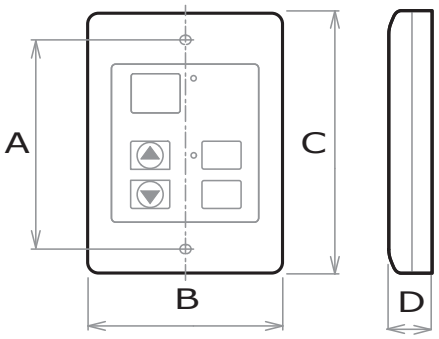
IMPORTANT

Other manufacturers' controllers are not compatible with this appliance.

Do not install controllers:

- near a heat source such as, a cook top, stove or oven (heat, steam, smoke or hot oil may cause damage)
- in direct sunlight
- outdoors unless protection from dust ingress and sunlight are provided
- against a metal wall unless in accordance with AS3000.

Dimensions (mm)



Dim'	Description	Universal (MC-91)	Kitchen Deluxe (MC-100V)	Bathroom Deluxe (BC-100V)
A	Distance between mounting holes	83	83	181
B	Width	90	128	195
C	Height	120	120	97
D	Depth	20	20	22

Controllers - general

Positioning

Controllers must be installed in shaded and clean locations. They should be fitted out of reach of children (suggested height 1.5 m). The Compact and Bathroom Deluxe Controllers are water resistant, however, durability is improved when positioned outside the shower recess or at least 400 mm above the highest part of a sink, basin or bath.

Water controller cables

Water controllers operate at extra low voltage (12 Volts DC) which is supplied from the water heater. Controllers come with 15 m of electrical cable. The appliance end of the controller cables are fitted with spade terminals.

Extension cabling is available as an accessory from Rinnai. Alternatively, a two core sheathed (double insulated) flex with a minimum cross sectional area of 0.5 mm^2 may be used. Maximum individual cable runs:

One controller	= 100 m
Two controllers	= 50 m (per controller)
Three or more controllers	= 20 m (per controller)

Water controller cables are not polarity sensitive.

Controllers - Universal installation

Fitting the Universal (Compact) Controller

1. Determine the most suitable position for the controller.
2. Drill three holes as shown (Fig.1 and Fig.2) for the securing screws and one to provide cable access.
3. When running cable through the access hole ensure the connector end of the cable is located nearest to the controller (Fig.2).
4. Carefully remove the face plate from the controller using a screwdriver (Fig.3).
5. Fix the controller to the wall using appropriate fittings as shown (Fig.4).
6. Remove protective plastic from the controller face as shown (Fig.4) and replace the face plate.

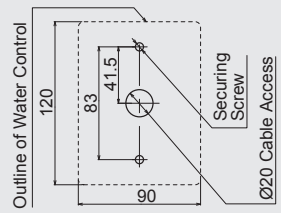


Fig.1

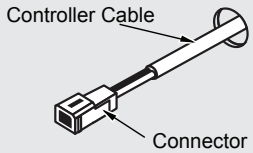


Fig.2

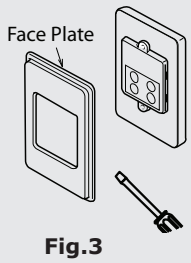


Fig.3

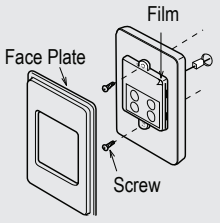
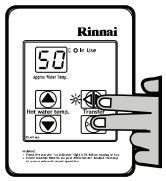


Fig.4

Optional programming of the Universal controller

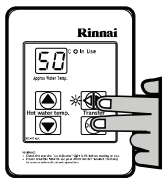
Step 1



Are four controllers connected? **No**, refer step 2. **Yes**, you will need to activate the fourth controller as follows:

1. For the controller in the kitchen only, press and hold the 'Transfer' and 'On/Off' buttons simultaneously until a beep is heard (approximately five seconds).
2. Check display on all four controllers is displaying a temperature when switched on. If any controller displays two dashes, repeat above step.

Step 2

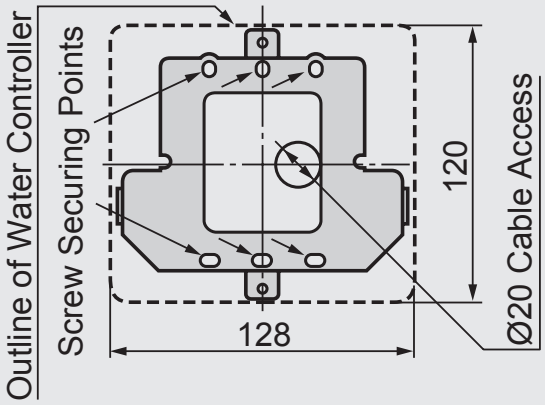


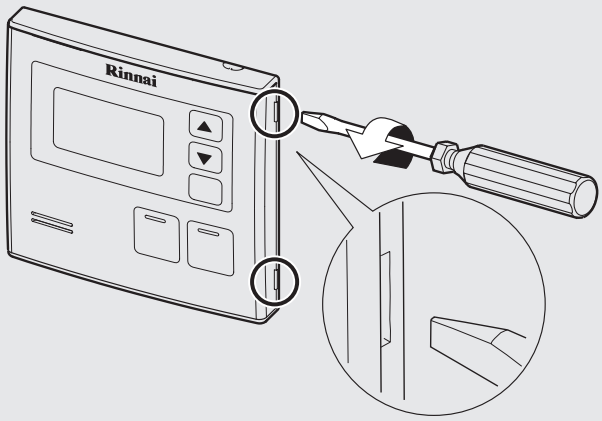
1. For the controller in the kitchen only, press and hold the 'Transfer' and 'On/Off' buttons simultaneously until a beep is heard (approximately five seconds).
2. When the controller fitted in the kitchen is switched on it will be possible to select temperatures higher than 50 °C (at this controller). If not repeat above step.

If the kitchen controller is replaced or swapped repeat the programming procedure.

Controllers - Kitchen Deluxe installation

1. Determine the most suitable position for the controller.
2. Use the wall mounting bracket as a template to mark and drill three holes, locating the cable access hole as shown below.
3. Fix the mounting bracket to the wall using the appropriate fixings.
4. Run the water controller cable through the hole in the wall.
5. Carefully remove face plate from the controller, using a screwdriver as shown below.
6. Connect the controller cable to the kitchen water controller. At this point cables from other controllers (if fitted) may also be connected to the kitchen water terminals, eliminating the need for multiple cable runs directly to the water heater. Feed excess cable lengths into the wall cavity to avoid pinching of cables between the wall and the water controllers.
7. Fasten water controllers to wall mounting bracket. Avoid the use of impact drills and over-tightening of fixings as this may damage the controllers.
8. Remove the protective plastic from the controller face and replace the face plate.





Controllers - Bathroom Deluxe installation

1. Determine the most suitable position for the controller.
2. Mark and drill three holes, locating the cable access hole as shown (Fig.1).
3. When running a cable through the access hole ensure the connector end of the cable is located nearest to the controller (Fig.2).
4. Affix the double sided self-adhesive seal to the back of the controller (Fig.3).
5. Carefully remove the face plate from the controller. Do this by placing your thumbs on the front digital display while hooking your fingers behind the top plate and gently push down as shown (Fig.4). Do not use a screwdriver as this may damage the controller.
6. Connect the cable to the bathroom controller. Feed excess cable lengths into the wall cavity to avoid pinching of cables between the wall and the controller.
7. Fix bathroom controller to the wall using appropriate fixings. Avoid the use of impact drills and over-tightening of fixings as this may damage the controller.
8. Remove the protective plastic from the controller face and replace the face plate.

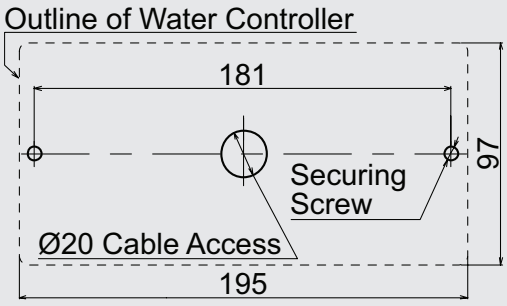


Fig.1

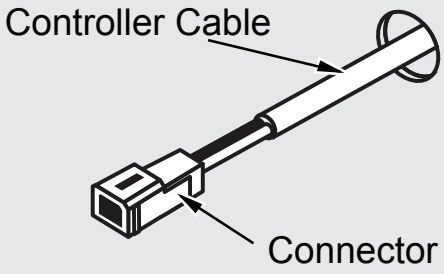


Fig.2

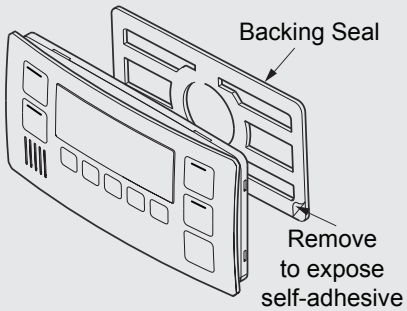


Fig.3

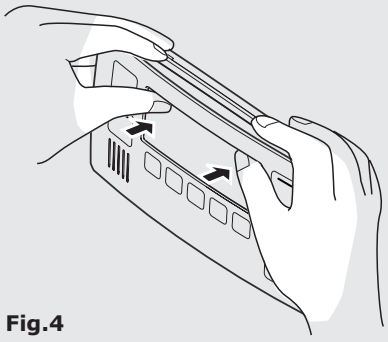


Fig.4

Controllers - communication cables

Communication cables connect the water heater to the water controllers and operate at an extra low voltage (12 Volts DC) which is supplied from the water heater. Communication cables are supplied with the water controllers (15 m) and are fitted with spade terminals for connection to the water heater. Up to two cables can be connected to the cable connector at the water heater.

Extension cables are available from Rinnai. Alternatively two core sheathed (double insulated) flex with a minimum cross sectional area of 0.5 mm^2 may be used (refer maximum individual cable lengths on p. 15).

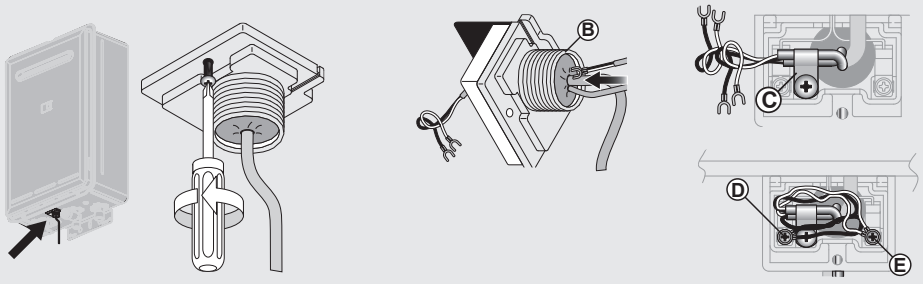
CAUTION

Do not attempt to connect cables to the cable connector at the water heater unless the electric power supply to the water heater is switched off otherwise damage to electrical components may occur.

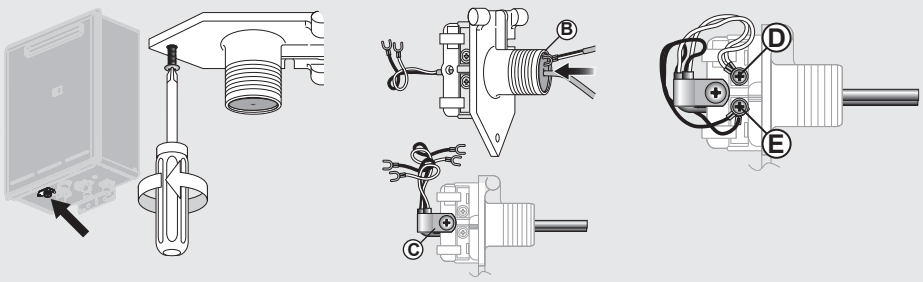
To connect up to two cables to the cable connector

1. Turn off power supply and unplug water heater from the power point.
2. Remove retaining screw of the cable connector at the base of the appliance.
3. Swing the cable connector door open. Thread the cable through the weather seal of the cable access hole (B) in the direction shown allowing sufficient cable length so the cable sheath can be secured with the cable clamp (C) supplied with the transceiver.
4. Loosen screw terminals (D) and (E) and connect cable spade connectors to these terminals and re-tighten. Polarity is not important, either wire colour can be connected to either terminal.
5. Return the cable connector to the original position taking care not to damage cable wires in the process and replace the retaining screw.

Cable connector for VT26, VTa26, VT24, VT20, and VT16



Cable connector for HD250, HD200, HDi200, and EF models



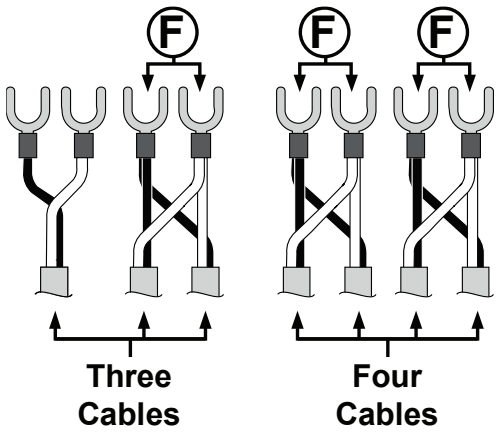
Controllers - communication cables

Connecting three to four controllers

1. Repeat steps 1-3 on previous page.

2. To connect three to four controllers, separate all the cables to be fitted into pairs. Cut off the existing spade connectors from each pair and re-terminate each pair into a new spade connector (F) (available from your local electrical supplier) so there are only two sets of spade connectors. Four spade connectors in total to be terminated.

3. Repeat steps 4 and 5 on previous page.



Spade connectors are available from your local electrical supplier.

Commissioning

Testing

WARNING Ensure building occupants do not have access to the hot water outlets during this procedure.

1. Before final connection of the water heater, purge the gas and hot and cold water supply lines. Swarf in the gas or water supplies may cause damage.
2. Turn on the gas and water supplies and test for leaks (gas and water) near the unit.
3. Isolate gas supply. Remove test point screw located on the gas inlet and attach pressure gauge.
4. Turn the power on at the power point socket and turn on the gas.
5. If water controllers are fitted ensure they are on. Select the maximum delivery temperature and open all available hot water taps including the shower. If water controllers are not fitted, open all available hot water taps.
6. Operate all other gas appliances at their maximum gas rate.
7. With all gas appliances operating on maximum, the pressure should read between 1.0-3.5 kPa (NG) or 2.75-3.5 kPa (LPG). If the pressure is lower, the gas supply is inadequate and the appliance will not operate to specification. It is the responsibility of the installer to check the gas meter, service regulator and pipe work for correct operation and sizing. The gas regulator on the appliance is electronically controlled and factory preset. Under normal circumstances it does not need adjustment during installation.
8. Close all hot water outlets.
9. Inspect and clean the strainer located on the cold water inlet connection. This may need to be repeated to ensure the strainer remains clear, especially on new installations.
10. If water controllers are fitted, it is necessary to test their operation through the complete range of functions (refer operation manual).
11. Confirm hot water delivery temperatures using a thermometer. If controllers are fitted, ensure temperatures exceeding 55 °C cannot be selected on bathroom controllers.
12. After testing is completed, explain to the customer how to operate the water heater and water controllers (if fitted). Ensure your details are completed (p. 26 of the operation manual).

Gas pressure setting

The gas regulator on the appliance is electronically controlled and factory preset. Under normal circumstances it does not need adjustment during installation. Make adjustments only if the unit is not operating correctly and all other causes for incorrect operation have been eliminated. Instructions for gas pressure setting are in the instruction pocket located inside the appliance front cover.

Commissioning checklist

Commission the unit in accordance with the Commissioning Checklist supplied with the appliance (front cover of appliance). Ensure you leave the completed checklist with the customer.

Recommended solar system layout

Warning about hot water

Rinnai continuous flow water heaters configured for solar systems produce hot water at 75 °C and are not suitable for use with water controllers. The household water supply MUST be protected by a suitable tempering valve.

Installation

Rinnai continuous flow water heaters in solar installations are only suitable as gas boosters in solar hot water systems. These models produce water at higher than normal temperatures and must be connected to the hot water supply by use of a suitable tempering valve.

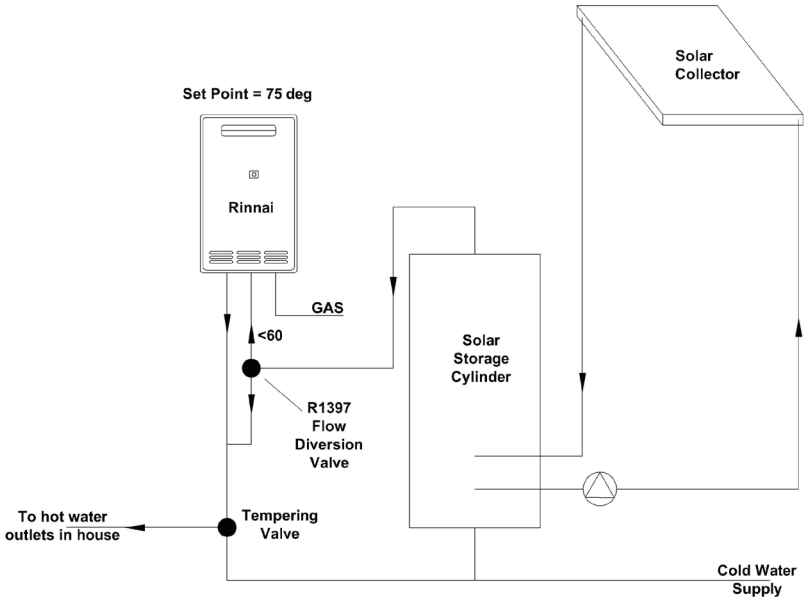
Install a Rinnai continuous flow water heater using a flow diversion valve as shown below. Remember 'B to Boiler' when setting up the flow diversion valve.

The water heater must be set to 75 °C (refer dip switch settings on following pages).

Rinnai water controllers cannot be used with Rinnai Infinity solar units as the:

- Hot water does not always pass through the Rinnai Infinity
- Rinnai Infinity dip switch setting of 75 °C is unable to be adjusted

Recommended system layout using a Rinnai Continuous Flow water Heater and Flow Diversion Valve



System configuration to protect for Legionella

If the system is configured according to the details above it will meet the requirements of the Acceptable Solution G12/AS2 for protection against Legionella. Section 3.5.2 states:

b) *the instantaneous water heater must heat all water passing through it to not less than 70 °C.*

Dip switch settings - important

Dip switch settings must only be changed by a licensed gasfitter. They have been provided as there may be a requirement to change the temperature of the water delivered from the water heater.

WARNING

Care must be taken when changing the temperature settings as the dip switches are small and can be easily switched or bumped into the wrong position. Please use this information carefully and fully check the operation of the water heater before leaving site including the temperature of the water delivered.

The cover of the water heater will need to be removed to carry out this operation. As this will expose live mains voltage wiring **please disconnect the power supply before removing the front cover**.

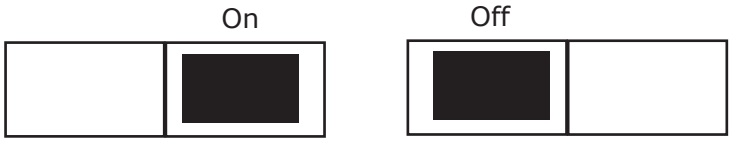
We wish to draw your attention to the requirements of the New Zealand Building Code and compliance document G12. This requires that water delivered to sanitary fixtures be no more than 55 °C. Increasing the water heater set temperature will therefore require that you protect all sanitary fixtures to which the appliance is plumbed with suitable tempering valves or similar.

Rinnai will accept no liability for issues arising out of the use of this dip switch information. If you have any doubts about the performance of the water heater please contact Rinnai by phoning 0800 TO RINNAI (0800 86 746 624).

The setting of water temperatures in domestic model Infinity units (white cases) to greater than 55 °C (with the exception of units set to 75 °C in domestic solar installations) will reduce the warranty period. Refer to warranty information in the Operation Manual for further information.

The following pages detail dip switch settings for the specific Rinnai continuous flow water heaters listed. They ARE NOT applicable for older models.

Legend for Dip Switch Settings (black section indicates position of switch)



Short and long flues

Reference to what is a short and long flue can be found on page 6.

Dip switch settings

Applicable models and REU-numbers

Rinnai Infinity VT16	External	REU-VR1620WG
Rinnai Infinity VT20	External	REU-VR2024WG
Rinnai Infinity VT24	External	REU-VR2426WG
Rinnai Infinity VT26	External	REU-VR2626WG
Rinnai Infinity VTa26	External	REU-VR2626WGT
Rinnai Infinity EF24	External	REU-K2430WG

Dip Switch 1: Upper SW(8P)

SW No.	Note							
1		Off						
2	Fixed temperature (with controllers)	Off	Fixed temperature			On	With controllers	
3 **4** **5**	Temperature settings	See Chart A						
6		Off						
7	Gas pressure	Off	Normal	On	Forced min.	On	Forced max.	
8		Off		Off		On		

Chart A: Temperature Settings

Dip.SW.1-SW No.(8P)			SW No.2 = Off (fixed temperature)	SW No.2 = On (with controllers)	
3	**4**	**5**	**No controllers (fixed temp.)**	**No controllers (fixed temp.)**	**With controllers (max. set temp.)**
Off	Off	Off	55	55	55
On	Off	Off	75	55	75
Off	On	Off	65	55	65
On	On	Off	60	55	60
Off	Off	On	50	50	50
On	Off	On	42	42	42
Off	On	On	not to be used	40	40
On	On	On	not to be used	55	75

Dip Switch 2: Lower SW(4P)

SW No.	Note				
1	Gas type	Off	LPG	On	NG
2,3,4	Model settings	See Chart B			

Chart B: Model Settings

Dip.SW.2-SW No.(4P)			Model (REU-number)
2	**3**	**4**	
Off	Off	Off	VT26 (VR2626WG), VTa26 (VR2626WGT) and EF24 (K2430WG)
Off	On	Off	VT24 (VR2426WG)
Off	Off	On	VT20 (VR2024WG)
Off	On	On	VT16 (VR1620WG)

Dip switch settings

Applicable models and REU-numbers

Rinnai Infinity HD200	External	REU-VRM2632WC
Rinnai Infinity HDi200	Internal	REU-VR2632FFUG
Rinnai Infinity HD250	External	REU-VR3237WG

Dip Switch 1: Upper SW(8P)

SW No.	Note							
1	FF model	Flue setting	Off	Long flue (p. 6)		On	Short flue (p. 6)	
	W model	Model setting	Off					
2	Fixed temperature (with controllers)		Off	Fixed temperature		On	With controllers	
3 **4** **5**	Temperature settings		See Chart A					
6			Off					
7	Gas pressure		Off	Normal	On	Forced min.	On	Forced max.
8			Off		Off		On	

Chart A: Temperature Settings

Dip.SW.1-SW No.(8P)			SW No.2 = Off (fixed temperature)	SW No.2 = On (with controllers)	
3	**4**	**5**	**No controllers (fixed temp.)**	**No controllers (fixed temp.)**	**With controllers (max. set temp.)**
Off	Off	Off	55	55	55
On	Off	Off	75	55	75
Off	On	Off	65	55	65
On	On	Off	60	55	60
Off	Off	On	50	50	50
On	Off	On	42	42	42
Off	On	On	85, 95[1]	40	40
On	On	On	85	55	75

[1] 95 °C setting only available for HD250 model

Dip Switch 2: Lower SW(4P)

SW No.	Note				
1	Gas type	Off	LPG	On	NG
2,3,4	Model settings	See Chart B			
5,6	Not in use	Off			

Chart B: Model Settings

Dip.SW.2-SW No.(4P)			Model (REU-number)
2	**3**	**4**	
Off	Off	Off	HD250 (VR3237WG)
Off	Off	On	HD200 (VRM2632WC)
Off	On	On	HDi200 (VR2632FFUG)

Dip switch settings

Applicable models and REU-numbers

Rinnai Infinity EF250	External	REU-KM3237WD
Rinnai Infinity EFi250	Internal	REU-KM3237FFUD

Dip Switch 1: Upper SW(8P)

SW No.	Note							
1	Flue settings	Off	EF250 Ext & EFi250 Int long flue (p. 6)			On	EFi250 Internal short flue (p. 6)	
2	Fixed temperature (with controllers)	Off	Fixed temperature			On	With controllers	
3 **4** **5**	Temperature settings	See Chart A						
6	Not in use	Factory setting is 'Off'						
7	Gas pressure	Off	Normal	On	Forced min.	On	Forced max.	
8		Off		Off		On		

Chart A: Temperature Settings

Dip.SW.1-SW No.(8P)			SW No.2 = Off (fixed temperature)	SW No.2 = On (with controllers)	
3	**4**	**5**	**No controllers (fixed temp.)**	**No controllers (fixed temp.)**	**With controllers (max. set temp.)**
Off	Off	Off	55	55	55
On	Off	Off	75	55	75
Off	On	Off	65	55	65
On	On	Off	60	55	60
Off	Off	On	50	50	50
On	Off	On	42	42	42
Off	On	Off	95	40	40
On	On	On	85	55	75

Dip Switch 2: Lower SW(6P)

SW No.	Note				
1	Gas type settings	Off	LPG	On	NG
2		Off		Off	
3	Type settings	Off	External	Off	Internal
4		Off		On	
5	Automatic return	Off	Inactive	On	Active
6	External device	Off	S-BMS	On	AH

Rinnai

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Consumers: 0800 RINNAI (746 624)
Installers: 0800 TO RINNAI (86 746 624)

Address: 105 Pavilion Drive, Airport Oaks, Mangere, Manukau
PO Box 53177, Auckland Airport, Manukau 2150

Phone: (09) 257 3800
Fax: (09) 257 3899

Email: info@rinnai.co.nz
Website: www.rinnai.co.nz

All Rinnai appliances meet or exceed the safety standards required by New Zealand gas and electrical regulations.

Rinnai is constantly improving its products and as such information and specifications are subject to change or variation without notice.

Installation Manual

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